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Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
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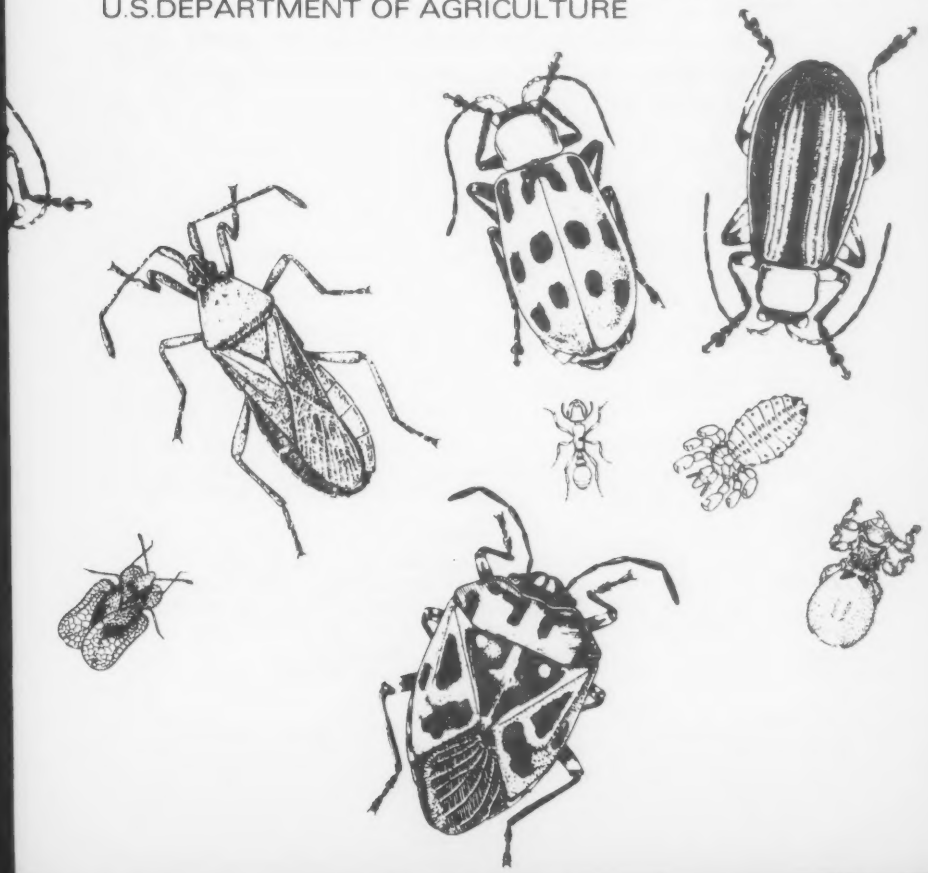

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG numbers severe on small grains in parts of Texas, Oklahoma, Kansas, Nebraska, and Arkansas. (pp. 867-868).

SPOTTED ALFALFA APHID yellowed alfalfa in Oklahoma and Kansas. (p. 868).

BEET ARMYWORM damaged alfalfa, sugar beets, and lettuce in California. (pp. 870, 871).

SAN JOSE SCALE heavy on apples in Maryland and New Hampshire. (p. 871).

HORN FLY heavy in Florida, Oklahoma, and Texas. (pp. 874-875).

MEDITERRANEAN FRUIT FLY collected 2.5 miles northwest of Santa Monica. Total of 18,537,000 sterile flies and pupae released to November 22.

Detection

● A MEALYBUG is a new United States record in New Jersey. (p. 875).

New State records include a MEALYBUG in Texas (p. 869), HICKORY PLANT BUG, a SOFT SCALE, HOLLY SCALE (p. 871), and a SAWFLY (p. 873) in Alabama; an ICHNEUMON WASP in New Mexico (p. 875), and 2 WEEVILS in Maryland (pp. 875, 879).

For new county and island records see pages 879-881.

Special Reports

The Establishment of *Coccinella septempunctata* L. in the Continental United States. (pp. 883-884).

Romanian References on the European Corn Borer *Ostrinia* (*Pyrausta*) *nubilalis* (Hübner). (pp. 885-890).

Distribution of Cereal Stem Moth (map). (p. 891).

Distribution of Birch Leafminer (map). (p. 892).

Reports in this issue are for the weeks ending October 31 through November 14 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING NOVEMBER 16

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

TEMPERATURE AND PRECIPITATION: Monday marked an entire week of summer-like weather across much of the eastern third of the Nation. The mercury shot to record highs in Buffalo, New York--69 degrees, Norfolk, Virginia--80 degrees, and Macon, Georgia--81 degrees. Meantime, winter staked a bigger claim in the West where a surge of cold moist air dumped heavy snow on the Sierra Nevada Mountains of California and the Cascades of Oregon and Washington. Snow also spread into Idaho, Montana, and Utah. In the Nation's midsection, high winds gave the Upper Great Lakes area a beating. Gusts in Marquette, Michigan, topped 60 m.p.h. Sunny cooler conditions settled over the Plains and the Mississippi Valley. Temperatures in the 30's in the northern Plains and 50's in the middle Mississippi Valley ranged 20 degrees cooler than the weekend readings. Evening precipitation included showers and thunderstorms along the Atlantic and eastern gulf coasts. Rain and snow were scattered from the Pacific Northwest into the northern and central Rockies. A chilly sunrise greeted the Northeast on Tuesday. Scattered frost cloaked areas from the Ohio Valley into West Virginia. Fair skies opened up throughout most of the southern half of the Mississippi Valley and the southern tier of States from Texas through California. A midday low pressure center in South Dakota stirred up strong winds over the eastern portions of Colorado and Wyoming and the western areas of Kansas, Nebraska, and South Dakota where wind gusts to 50 m.p.h. were common. Afternoon precipitation on

Weather of the continued on page 882.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - MISSISSIPPI - Larvae of this species and Spodoptera frugiperda (fall armyworm) infested winter wheat in Oktibbeha and Noxubee Counties week ending October 31. (Robinson).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Controls completed October 28. Total of 47,772 acres treated in Cuyama Valley, San Luis Obispo, Kern, Kings, Fresno, and Los Angeles Counties. Average kill of 93.9 percent in areas checked (Cuyama Valley, Carriso Plains, Bakersfield, and Taft). (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Scattered light infestations, up to 6 per linear foot, on wheat in Grady, Grant, Osage, Craig, Nowata, Rogers, and Mayes Counties week ending November 14. (Okla. Coop. Sur.). KANSAS - None to trace on wheat in northeast, east-central, north-central, and central districts week ending October 31. (Bell). VIRGINIA - Light on some small grain in Henrico County week ending November 14. (Allen).

GREENBUG (Schizaphis graminum) - TEXAS - Increased on small grain in Rolling Plains area 14 days prior to November 7. (Patrick et al.). Up to 200 per foot of row from spots in scattered small grain fields in Knox County week ending November 14; ranged 1-100 per foot of row in many fields. (Boring et al.). OKLAHOMA - Up to 1,000 per linear foot on Custer County wheat week ending October 31. Moderate in Beckham County. Some wheatfields treated in northern Texas County. Heavy on Washita County wheat week ending November 7. Ranged 15-25 per linear foot in Canadian County. Heavy, 500-650 per linear foot, in some wheatfields in northwest Grant County and in northeast Alfalfa County week ending November 14. Few fields killed. Up to 110 per linear foot in 1 to 2-leaf wheat. Ranged 15-175 per linear foot in other areas of Grant, Kay, and Osage Counties. Light to heavy in Grady County, up to 250 per linear foot, and light to moderate in Caddo County. (Okla. Coop. Sur.).

KANSAS - Some heavy greenbug infestations on wheat apparently restricted to 5-square-mile area in northwest Grant County, extending into northeast Stanton County week ending October 31; treatments applied. Ranged 300-1,000 per drill row foot on 2 to 4-inch wheat. Threatening in scattered wheatfields in Dickinson, Saline, Clay, and Jefferson Counties. Economic, 100 or more per drill row foot, on wheat 6 inches or shorter in Logan, Saline, Dickinson, and Linn Counties week ending November 7. Subeconomic but threatening infestations often found in east-central and sometimes southeast districts. Cooler weather week ending November 14 slowed increases on wheat, but threatening and economic infestations somewhat more common. No mortality due to recent subfreezing temperatures. Significant increase in wheatfield in Saline County. Averaged 160 per drill row foot November 6, increased to 450 by November 13 on 5-inch wheat; many smaller plants severely damaged. Lysiphlebus testaceipes (a braconid wasp) and lady beetles checked increase in wheatfield in Dickinson County, smaller plants heavily damaged but most recovered. No parasitism in other fields surveyed. (Bell).

NEBRASKA - Schizaphis graminum economic, 50 or more per linear foot of drill row, near Osceola, Polk County, October 30. (Sigler, Kantor). Ranged 5-500 (averaged 173) per linear foot of row in 3 Adams County fields week ending November 7. Parasitism by Lysiphlebus testaceipes ranged 2-40 (averaged 27) percent. Stand loss 25 percent in field with 500 greenbugs. Greenbugs ranged 1-300 (averaged 78) per linear foot of row in 4 Webster County fields. Parasitism trace to 10 percent. Two Kearney County fields averaged 25 greenbugs per linear foot of row; parasitism averaged 10 percent. Wheat damaged in Polk and Hamilton Counties. (Cranfill, Kantor).

ARKANSAS - Greenbug comprised more than 95 percent of aphid species on small grains week ending November 14. Ranged from trace to 100-150 per row foot of drill. Most aphids winged on small grain. Damage noneconomic. (Boyer). MISSISSIPPI - This species and Macrosiphum avenae (English grain aphid) predominant on small grains in Monroe, Clay, Oktibbeha, and Noxubee Counties week ending November 7. Most infestations light and spotty. (Robinson). KENTUCKY - Collected from wheat October 28, 1975, near Elkton, Todd County, and near Princeton, Caldwell County. Collected and determined by H. Raney. These are new county records. This species, Rhopalosiphum maidis (corn leaf aphid), and R. padi on small grains in Logan, Caldwell, Todd, Fayette, and Scott Counties week ending November 7. R. padi heavy at one location in Fayette County. (Barnett, Raney).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Ranged 1-3 per square foot of new alfalfa near Carlsbad, Eddy County, week ending November 14. (N.M. Coop. Rpt.). OKLAHOMA - Light on young Wagoner County alfalfa week ending October 31. Damaged newly planted Payne County alfalfa week ending November 7. Heavy and damaged fall-seeded alfalfa in Grady and Caddo Counties week ending November 14. (Okla. Coop. Sur.). KANSAS - Averaged 59 per sweep on 9-inch Riley County alfalfa and 25 per sweep on 8-inch Brown County alfalfa week ending October 31. Heavy, caused much yellowing of lower leaves and some leaf shed, on 3-inch seedling alfalfa in Marion County week ending November 14. (Bell).

CORN, SORGHUM, SUGARCANE

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - ALABAMA - Girdled and lodged 2-5 percent of cornstalks in 20-acre field near Arab, Marshall County, week ending November 7. Larvae in winter color form. Similar on most corn in southwestern Marshall County. (Stephenson et al.). MISSOURI - Heavy in 2 small late cornfields in southwest area week ending November 8. Infested 51 and 76 percent of plants; girdling averaged 18 and 41 percent. (Munson).

EUROPEAN CORN BORER (Ostrinia nubilalis) - FLORIDA - Adult male collected in blacklight trap at Berrydale, Santa Rosa County, September 15, 1975, by J.H. Carter. Determined by F.W. Mead. This is a new county record. (Fla. Coop. Sur.). ALABAMA - Damage light to sweet sorghum in Blount County field. Many larvae tunneled mature cornstalks in 30-acre Morgan County field week ending October 31. (Lloyd, Houston).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - KENTUCKY - Larvae, 10 per square foot, heavily damaged 50 acres of wheat in Christian County week ending October 31. (Barnett, Raney).

WHEAT STEM SAWFLY (Cephus cinctus) - NORTH DAKOTA - Average percentage of cut stems ranged 0.01-1.64 per field in 100 hard red spring wheat stubble fields in 7 counties surveyed week ending November 7. (Brandvik, Scholl).

AN APHID (Rhopalosiphum padi) - OKLAHOMA - Ranged 600-700 per linear foot on wheat checked in Grady County week ending November 14. (Okla. Coop. Sur.). KANSAS - Averages up to 1,000 per drill row foot on 4-inch Sherman County wheat and 200 in 5-inch Ellsworth County wheat week ending November 7; no damage apparent. (Bell).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - NEBRASKA - Averaged 100 or more per linear foot of row of seedling wheat in 2 Kearney County fields week ending November 7. (Cranfill, Kantor).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Ranged 100-500 per linear foot of wheat in Grady County week ending November 14. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

A MEALYBUG (Brevennia rehi) - TEXAS - Collected on Panicum sp. at McAllen, Hidalgo County, by D.R. Riley July 10, 1974. Determined by S. Nakahara. This is a new State record. (Nakahara).

SALTMARSH CATERPILLAR (Estigmene acrea) - NEW MEXICO - Migrations heavy on range throughout east-central area week ending October 31. Migration continued moderate in Roosevelt, Curry, and Quay County week ending November 7. (N.M. Coop. Rpt.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - OKLAHOMA - Adults heavy, 10-12 per sweep, on alfalfa in Stephens County week ending November 14. (Okla. Coop. Sur.). KANSAS - Adult averages ranged trace to 50 per 100 sweeps in 8 to 11-inch Atchison County alfalfa week ending October 31. (Bell). MISSOURI - Adults 2-14 per 10 sweeps in southwest area alfalfa week ending October 31. (Munson). Eggs averaged 42.5 per square foot in northeast area alfalfa field week ending November 8. (Huggans). Adults light to moderate, up to 18 per 10 sweeps, in all forage legume fields checked in south-central area week ending November 15. (Munson). KENTUCKY - Eggs averaged 5.7 and 1.6 per square foot at 2 Fayette County locations week ending October 31. Eggs averaged 14.7 per square foot in Barren County and 2.1 and 8.5 eggs per square foot in Fayette County week ending November 7. Adults heavier than usual. (Barnett, Parr). WEST VIRGINIA - Adults averaged 45 and larvae 4 per 100 sweeps in Ohio County alfalfa October 28. Adults averaged 45 and larvae 2 per 100 sweeps in Hancock County. Adults averaged 26 per 100 sweeps in Pendleton County alfalfa November 3 and 42 per 100 sweeps in Randolph County alfalfa November 4. (Hacker).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Damaged several commercial alfalfa plantings in Fresno County week ending October 31. (Cal. Coop. Rpt.).

PEA APHID (Acyrthosiphon pisum) - FLORIDA - About 1,700 nymphs and adults per 100 sweeps of 22-inch alfalfa at Gainesville, Alachua County, November 6. (Fla. Coop. Sur.). OKLAHOMA - Heavy; damaged fall-seeded alfalfa in Grady and Caddo Counties week ending November 14. (Okla. Coop. Sur.).

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Larval damage to late soybeans continued in some Choctaw County fields week ending October 31. Damage much later than usual. Many moths at lights in Lee County. (Sexton et al.).

STINK BUGS - SOUTH CAROLINA - Nezara viridula (southern green stink bug) and Acrosternum hilare (green stink bug) collected from Clarendon County soybean field by B. Lester October 14, 1975. Determined by R.P. Griffin. These are new county records. (McCaskill).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Moderate in Concho County week ending October 31. (McWhorter). Light to moderate in isolated cotton fields in Glasscock and Reagan Counties week ending November 14. Glasscock, Reagan, Upton, and Midland Counties initiated fourth control application. (Neeb).

SUGAR BEETS

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Most serious pest of seedling sugar beets in Imperial Valley, Imperial County week of October 31. Treatments difficult as many pesticides ineffective. (Cal. Coop. Rpt.).

SALTMARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Larvae damaged sugar beets at Santa Maria, Santa Barbara County, week ending November 14. (Cal. Coop. Rpt.).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Continued to damage cabbage, cauliflower, and broccoli in commercial fields and gardens in Uvalde area week ending November 14. (Stewart).

GENERAL VEGETABLES

SWEET POTATO WEEVIL (Cylas formicarius elegantulus) - ALABAMA - Many larvae and adults collected from sweetpotatoes at 2 locations one mile west of Phenix City, Russell County, October 31, 1975. Collected and determined by N. Wilson and C.H. Knox. This is a new county record. Heavily infested sweetpotatoes 5 miles west of Ashford, Houston County, in old infested area. (Wilson, Knox).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - This species and Spodoptera exigua (beet armyworm) serious in young Imperial County lettuce plantings. (Cal. Coop. Rpt.).

A LEAFMINER FLY (Liriomyza sativae) - FLORIDA - Light to heavy in nearly all celery fields week ending November 14. Principal pest of celery at Belle Glade, Palm Beach County. (Fla. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

SAN JOSE SCALE (Quadraspidiotus perniciosus) - MARYLAND - Increased range into Washington County apple orchards week ending November 7. Moderate to heavy in about 160 acres in 2 orchards. Infested several hundred acres of apple orchards in Washington County production area. (U. Md., Ent. Dept.). NEW HAMPSHIRE - Averaged 25 per fruit on 3 apple trees at Manchester, Merrimack County, week ending November 7. (Hopfer).

HICKORY PLANT BUG (Lygocoris caryae) - ALABAMA - Very heavy on numerous pecans in Lee County May 12, 1975. Collected by T.B. Hagler and H.F. McQueen. Determined by J.L. Herring. This is a new State record. (McQueen).

PECAN WEEVIL (Curculio caryae) - ALABAMA - Larvae emerged October 28 from nuts under 5 treated trees in Conecuh County; 38 larvae per 1,000 nuts under 5 trees and 13 per 1,000 nuts under 5 other trees. (Strother). KENTUCKY - Infested about half of pecan nuts at one location in Jefferson County week ending November 14. (Scheibner).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - NEW MEXICO - Fourth-generation activity on pecans suspected week of November 7. Fully grown larvae, pupae, and larvae entering hibernaculum found at Carlsbad, Eddy County. (N.M. Coop. Rpt.).

ORNAMENTALS

A SOFT SCALE (Pulvinaria urbicola) - ALABAMA - Taken on Heterotheca subraxilaris at Gulf State Park Sand Dunes, Baldwin County, May 31, 1975. Collected and determined by M.L. Williams. This is a new State record. (McQueen).

HEMISPHERICAL SCALE (Saissetia coffeae) - ALABAMA - Collected on fern at Sylacauga, Talladega County, June 24, 1975, by J.W. Williams and in Clay County July 8 by L. Barker. This species and Planococcus citri (citrus mealybug) taken on Alternanthera sp. at Pell City, St. Clair County, by J.W. Jordon July 29. Determined by M.L. Williams. These are new county records. (McQueen).

HOLLY SCALE (Dynaspidiotus britannicus) - ALABAMA - Taken on Caladium jamaicense in Gulf State Park, Baldwin County, June 29, 1975. Collected and determined by M.L. Williams. This is a new State record. (McQueen).

CAMPHOR SCALE (Pseudaonidia duplex) - ALABAMA - Taken on Lyonia ligustrina at Gulf State Park, Baldwin County, June 29, 1975. Collected and determined by M.L. Williams. This is a new county record. (McQueen).

ARMORED SCALES - ALABAMA - Abgrallaspis cyanophylii collected on Ilex sp. (holly) at Auburn, Lee County, by C.H. Ray June 12, 1975. Hemiberlesia lataniae taken on Arecapalm at Dothan, Houston County, and Pseudaulacaspis cockerelli taken on magnolia at Ashford, Houston County, August 4, 1975. Collections by D. Bean. All above determinations by M.L. Williams. All are new county records. (McQueen). FLORIDA - Velataspis dentata infested leaves of Viburnum sp. along roadside at Wausau, Washington County, September 18, 1975. Collected by A.E. Graham. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

EUONYMUS SCALE (Unaspis euonymi) - FLORIDA - Adults moderate on 25 percent of 50 Euonymus sp. plants at Lake Butler, Union County, October 14, 1975. Collected by C.H. Webb. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

A MEALYBUG (Pseudococcus sorghiellus) - ALABAMA - Taken on Lespedeza cuneata (Chinese lespedeza) at Lake Martin, Coosa County, by C.H. Ray July 15, 1975. Determined by M.L. Williams. This is a new county record. (McQueen).

FOREST AND SHADE TREES

DOUGLAS FIR TUSSOCK MOTH (Orgyia pseudosugata) - NEW MEXICO - Statewide pheromone trapping survey completed. Taken in Bernalillo, Colfax, Otero, Sandoval, and Torrance Counties October 8, 1975. Collected and determined by A. Smith. These are new county records. Taken in previously infested areas of Sante Fe, Los Alamos, Lincoln, and Sierra Counties. Defoliation in new areas ranged light to heavy, on a few to 1,000+ acres, and on Douglas-fir and white fir. (N.M. Coop. Rpt.). ARIZONA - Infested 200 white fir trees southwest of Chama, Rio Arriba County, August 27, 1975. Collected and determined by A.H. Smith. This is a new county record. (N.M. Coop. Rpt.).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - OKLAHOMA - Infestations mostly in loblolly pine in one spot near Eagletown and several spots near Bokhoma, McCurtain County, September 24, 1975. Collected and determined by L. Brossy. Infested 2-3 trees in most spots, 30 trees in largest spot. Salvage underway, loss estimated at about 55,000 board feet. (Okla. Coop. Sur.).

AN OLETHREUTID MOTH (Rhyacionia bushnelli) - NORTH DAKOTA - Larvae caused light damage to shelterbelt of ponderosa pines near Hazen, Mercer County. Collected by A.D. Tagestad and M.E. Dix September 10, 1975. Determined by A.D. Tagestad. This is a new county record. (Tagestad).

SOFT SCALES - ALABAMA - Toumeyella parvicornis collected on Pinus sp. in Barbour County by M.L. Williams and C.H. Ray May 16, 1975; on P. echinata (shortleaf pine) on Interstate Highway 66 in Escambia County by M.L. Williams May 31; and on Pinus sp. in Talledega County by C.H. Ray June 8. T. pini collected on Pinus virginiana (Virginia pine) in Butler County by M.L. Williams May 31; at Birmingham, Jefferson County, by C.H. Ray and J.M. Dunn June 10; and on P. taedae (loblolly pine) at Hamilton, Marion County, by H. Price September 18. T. virginiana collected on Pinus sp. at Birmingham, Jefferson County, by C.E. Smith June 27, 1975,

and on loblolly pine in Tuskegee National Forest, Macon County, by M.L. Williams September 29. Pseudophilippia quaintancii collected on Pinus sp. at Birmingham, Jefferson County, by C.E. Smith June 27, 1975, and on loblolly pine at York, Sumter County, and Demopolis, Marengo County, July 13 by M.L. Williams. All determined by M.L. Williams. These are all new county records. (McQueen).

A PINE APHID (Eulachnus agilis) - WEST VIRGINIA - Infested 10 percent of trees in Scotch pine plantation at Princeton, Mercer County, October 15, 1975. Collected by G.W. Gibson. Determined by M.B. Stoetzel. This is a new county record. (Hacker).

WHITE PINE APHID (Cinara strobi) - ALABAMA - Heavy on several white pines October 22 at Guntersville residence, Marshall County. Several trees dead. Collected by F. Wood. Determined by M.B. Stoetzel. This is a new county record. (McQueen).

REDHEADED PINE SAWFLY (Neodiprion lecontei) - ALABAMA - Fully grown larvae defoliated 25 percent of 150 loblolly pines in third and fourth year of growth on golf course at Heflin, Cleburne County. Controls being applied. (Thompson).

A SAWFLY (Macremphytus tarsatus) - ALABAMA - Larvae defoliated unidentified shrub (probably Cornus spp.) in apple orchards September 18 at Dadeville, Tallapoosa County. Collected by H. Webb. Determined by D.R. Smith. This is a new State record. (McQueen).

OAK SKELETONIZER (Bucculatrix ainsliella) - MARYLAND - Damage moderate to heavy in street plantings of willow oak at College Park, Hyattsville, and Greenbelt in Prince Georges County week ending November 7. (U. Md., Ent. Dept.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - KENTUCKY - An adult collected near Edmonton, Metcalf County, in general sweeping of grasses July 24, 1972. Adults taken from grasses and shrubs near Greensburg, Green County, on grasses and shrubs and swept from low herbaceous plants in Robertson County, near Piqua, September 14, 1972. All collected and determined by D. Barnett; confirmed by R. Scheibner. These are new county records. (Barnett).

SANDCHERRY WEEVIL (Coccotorus hirsutus) - NORTH DAKOTA - Adult reared from larvae in fruit of Prunus pumila (sand cherry) collected in rural area of Bottineau County by J.D. Stein August 30, 1973. Determined by R.E. Warner. This is a new county record. (Stein).

ARMORED SCALES - ALABAMA - Diaspidiotus liquidambaris collected on Liquidambar styraciflua (sweetgum) at Dozier, Crenshaw County, and in Covington County by M.L. Williams June 1, 1975. Collected on sweetgum by C.H. Ray in Tuskegee National Forest, Macon County, June 3; Marshall County June 7; St. Clair County June 8; Shelby County June 8; Huntsville, Madison County, June 8; Blount County June 8; and Talladega County June 8. Collected on same host at Birmingham, Jefferson County, by C.H. Ray and J.M. Dunn June 10. Chionaspis nyssae taken on Nyssa sylvatica (black tupelo) at Heath, Covington County, June 1, 1975. C. heterophyllae collected on Pinus taedae (loblolly pine) at Huntsville, Madison County, and

Acutaspis morrisonorum on Pinus taedae in Marshall County by C.H. Ray June 7, 1975. Pseudaulacaspis pentagona (white peach scale) collected on Morus rubra (red mulberry) at Huntsville, Madison County, by C.H. Ray June 7, 1975. All determined by M.L. Williams. All are new county records. (McQueen).

TULIPTREE SCALE (Toumeyella liriodendri) - ALABAMA - Collected on Liriodendron tulipifera (yellow-poplar) in Chambers County by C.H. Ray May 24, 1975, and in Coosa County by G.S. Session May 26. Determined by M.L. Williams. These are new county records. (McQueen).

TERRAPIN SCALE (Lecanium nigrofasciatum) - ALABAMA - Collected on Sassafras albidum (white sassafras) at Huntsville, Madison County, by C.H. Ray June 7, 1975. Determined by M.L. Williams. This is a new county record. (McQueen).

SOFT SCALES - Lecanium corni - ALABAMA - Collected on Vaccinium in Barbour County by M.L. Williams and C.H. Ray May 16, 1975. Collected by C.H. Ray on Nyssa sylvatica (black tupelo) in Marshall County June 7 and on Quercus alba (white oak) in St. Clair County June 8. Taken on Madison County maple tree May 29, 1975, by R. Burton. Also collected on Sassafras albidum (white sassafras) at Huntsville, Madison County, by C.H. Ray June 7, 1975. All determined by M.L. Williams. All are new county records. (McQueen).

AN ERIOPHYID MITE (Eriophyes microcarpae) - NEW MEXICO - Observed on large areas of Grant, Sierra, and Chaves Counties during late September and early October on Juglans major and J. microcarpa. Sierra County is a new county record. Collected and identified by W. Iselin. (N.M. Coop. Rpt.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 3,968 cases reported from continental U.S. October 12 to November 8 as follows: Oklahoma 4; Texas 3,827; New Mexico 31; Arizona 41. Total of 2,011 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 973 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 637,882,200 as follows: Louisiana 180,000; Texas 528,388,200; New Mexico 14,733,000; Arizona 94,221,000; California 180,000. Total of 29, 610,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

COMMON CATTLE GRUB (Hypoderma lineatum) - TEXAS - Moderate in cattle in Concho County week ending November 14. (McWhorter).

HORN FLY (Haematobia irritans) - FLORIDA - Averaged 620 per beef animal in herd at Gainesville, Alachua County, November 6. Heavier than normal for time of year, probably due to lack of cold rains. (Fla. Coop. Sur.). MISSISSIPPI - Adults 25-30 on beef cattle in Wayne County week ending October 31. (Robinson). OKLAHOMA - Continued moderate to heavy on Comanche County cattle week ending October 31. Light, 5-10 per head, on cattle checked in Payne and Mayes Counties week ending November 14. (Okla. Coop. Sur.). TEXAS - Moderate to heavy on cattle in Bandera and surrounding

counties in southern area week ending October 31. Moderate on Concho County cattle. Still moderate on Wilbarger County cattle. (Boring). Horn fly moderate on cattle, sheep, and goats in San Angelo area week ending November 7. Moderate on Concho County cattle week ending November 14. (McWhorter).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 3 per head on dairy cattle in Payne County week ending November 14. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Overwintering adults nuisance at Oktibbeha County residences week ending October 31. (Robinson). WASHINGTON - Pollenia rudis (cluster fly) and some M. autumnalis causing problems in buildings at Wynooche Dam in Grays Harbor County and at Mud Mountain facilities in King County week ending November 13. Interferred with electrical equipment in one instance. (Antonelli, Bailey).

EAR TICK (Otobius megnini) - OKLAHOMA - Moderate to heavy in ears of Comanche County cattle week ending October 31. (Okla. Coop. Sur.).

HOUSEHOLDS AND STRUCTURES

OLDHOUSE BORER (Hylotrupes bajulus) - SOUTH CAROLINA - Collected from residence in Kershaw County by J. Gray October 3, 1975. Determined by J.B. Kissam. This is a new county record. (McCaskill).

MISCELLANEOUS WILD PLANTS

A MEALYBUG (Chaetococcus phragmitis (Marchal)) - NEW JERSEY - Collected one mile east of Tuckerton, Ocean County, July 21, 1975, on Phragmites communis (common reed) by R.F. Denno. Determined by D.R. Miller and S. Nakahara. This is a new United States record. C. phragmitis was reported from Egypt, France, Iraq, Italy, Morocco, Palestine, and southern part of European Russia on P. communis and Phragmites species. It has been intercepted in agricultural quarantine from Austria, Germany, Poland, and Yugoslavia. This mealybug appears to be host specific on Phragmites. (Nakahara).

A WEEVIL (Nanophyes watsoni) - MARYLAND - Five adults collected on Arum sp. in a pond near Pocomoke City, Worchester County, by E.J. Ford May 27, 1963. Determined by R.E. Warner. This is a new State record. (PPQ).

STORED PRODUCTS

SALTMARSH CATERPILLAR (Estigmene acrea) - NEW MEXICO - Damaged stored sweetpotatoes at Portales, Roosevelt County. (N.M. Coop. Rpt.).

BENEFICIAL INSECTS

AN ICHNEUMON WASP (Bathyplectes curculionis) - NEW MEXICO - Collected in alfalfa at Los Lunas, Valencia County, May 21, 1975, by J. Ellington. Determined by R.W. Carlson. This is a new State record. (N.M. Coop. Rpt.).

AN ICHNEUMON WASP (Coccygomimus annulipes) - WEST VIRGINIA - One adult female collected under roofing paper bark flap on white oak tree at Moorefield, Hardy County, by C.C. Coffman by July 30, 1975. Determined by R.W. Carlson. This is a new county record. (Hacker).

A FLEA BEETLE (Longitarsus jacobaeae) - OREGON - Adults collected from 1971 release site in Tillamook County for redistribution in county week of October 20-24. Three releases, 200 adults each, to be made into caged tansy ragwort plants. (Gillette, Westcott).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

BOLL WEEVIL (Anthonomus grandis grandis) - NEW MEXICO - One adult collected in leggett trap by M.R. Perry October 23, 1975, quarter mile north of Malaga, Eddy County. Determined by R.Eads; confirmed by R.E. Warner. First find for year. (PPQ).

GRASSHOPPERS - NEW MEXICO - Continued migration of large numbers over U.S. Highway 285 between Roswell and Artesia in southern Chaves County. (N.M. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Ranged 0-3 percent in most cotton fields in El Paso, Pecos, Reeves, Glasscock, and Midland Counties week ending November 14. (Neeb). NEW MEXICO - Up to 12 percent in small bolls in fields near Carlsbad, Eddy County, week ending November 14. (N.M. Coop. Rpt.).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - Total of 77 adults trapped on 39 properties to November 17 in Los Angeles County. Larvae found on 12 properties. Most recent finds (3 adults) trapped on 2 properties at Pacific Palisades about 2.5 miles northwest of Santa Monica and about 25 miles south of commercial orchards. Most traps removed from core area of infestation November 6. Trapping and bait sprays to continue in peripheral areas. Sterile release began November 10 in core area. Total of 18,537,000 released to November 22 in 25-square-mile area. Ratio of 1,079 sterile to one native as of November 20. (Cal. Coop. Rpt., PPQ).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 11/7-13, BL, ARMYWORM (Pseudaletia unipuncta) 17, BLACK CUTWORM (Agrotis ipsilon) 10, FALL ARMYWORM (Spodoptera frugiperda) 16, GRANULATE CUTWORM (Feltia subterranea) 23, YELLOWSTRIPED ARMYWORM (S. ornithogalli) 1.

KENTUCKY - Fayette County, 11/7-13, BL, armyworm 10, black cutworm 2, CABBAGE LOOPER (Trichoplusia ni) 1, VARIEGATED CUTWORM (Peridroma saucia) 2, yellowstriped armyworm 5.

MISSISSIPPI - Stoneville, 11/7-13, temp. 37-80 F., precip. 0.80, 2BL, armyworm 231, BEET ARMYWORM (Spodoptera exigua) 492, black cutworm 104, BOLLWORM (Heliothis zea) 36, cabbage looper 18, fall armyworm 788, granulate cutworm 87, TOBACCO BUDWORM (H. virescens) 14, variegated cutworm 4, yellowstriped armyworm 18.

General Vegetables - TOMATO PINWORM (Keiferia lycopersicella) adults light to moderate in about 10-15 acres of potatoes at Hoolehua, Molokai, week ending October 31. Adults about 5-15 and larvae 4-7 on each plant. Larvae moderate in several hundred square yards of tomatoes. Harvested fruit 15-25 percent infested. (Ah Sam, Mau). LEAFMINER FLIES (Liriomyza spp.) moderate, 4-7 per leaflet, in 0.25 acre of tomatoes at Waiahole, Oahu, week ending November 7. Infested 30-40 percent of older leaves. Larvae and damage heavy on 3-4 acres of green onions at Waianae, Oahu, week ending November 14. Nearly all plants infested. Mines too numerous to count on 40-60 percent of leaves. BEAN FLY (Ophiomyia phaseoli) counts and damage heavy on nearly all plants in 0.125 acre of snap beans at Waiahole week ending November 7. Main stem damage severe; dieback in 30-40 percent of plants. Adults present. CABBAGE WEBWORM (Hellula rogatalis) continued moderate in 0.5-1.0 acre of mustard cabbage at Pearl City, Oahu, week ending November 7. Damaged at least 25 percent of heads. (Mau). SOUTHERN GREEN STINK BUG (Nezara viridula) damaged about 10 percent of bean pods in yard plantings of long beans week ending November 7. Adults and immatures moderate. Trichopoda sp. (a tachinid fly) parasitized 90+ percent of adults; adults of T. pilipes heavy in area. Adults and immatures of a MEMBRACID BUG (Antianthe expansa) heavy in yard planting of peppers at Wailuku, Oahu, damage heavy, week ending November 7. (Miyahira). CARMINE SPIDER MITE (Tetranychus cinnabarinus) moderate, 10-20 per inch, in acre of papaya at Waianae week ending November 14; apparently decreasing. All stages of Stethorus siphonulus (a lady beetle) present. Moderate, with damage noticeable on 0.5-1.0 acre of snap beans at Waimanalo, Oahu. ONION THRIPS (Thrips tabaci) moderate to heavy, 8-10+ per leaf, on 0.25 acre of green onions at Koko Head, Oahu, with 60-80 percent damaged leaves week ending November 14. BEET ARMYWORM (Spodoptera exigua) damaged 2-3 acres of onion at Waianae. (Mau).

Fruits and Ornamentals - ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) heavy on roses at Waialae-Kahala, lower Wilhelmina, and Kailua, Oahu, week ending October 31. Infestation at Kailua about 10 miles from original infestation at Kapahulu. (Fine). BANANA SKIPPER (Erionota thrax) larvae and damage moderate throughout most areas on Molokai week ending October 31. Larval damage expected to decrease. (Ah Sam, Mau). Damage by a NOCTUID MOTH (Phlegetonia delatrix) heavy on 50+ of new growth on Java plum trees at Waiahole week ending November 7. Young terminal growth 40-60 percent defoliated. (Mau). Larvae of OLEANDER HAWK MOTH (Deilephila nerii) light on gardenia plants at Kaumana and Kona, Hawaii, October 23, 1975. Collected by S. Kobayashi. Determined by E. Yoshioka. This is a new island record. (Kobayashi). WESTERN FLOWER THRIPS (Frankliniella occidentalis) counts and damage heavy in several acres of tuberoses at Waimanalo week ending November 7. This thrips 6-10 per blossom on 40-50 percent of open flowers. FLORIDA RED SCALE (Chrysomphalus aonidum) heavy on 20 percent of leaves, 100+ per leaf, on 12 citrus trees at Waianae week ending November 14. (Mau).

Turf and Pasture - GRASS WEBWORM (Herpetogramma licarsisalis) completely defoliated 2 acres in 25-30 acre pasture at Haiku, Maui, week of November 14. Eucelatoria armigera (a tachinid fly) and Casinaria infesta (an ichneumon wasp) heavy. Moderate webworm damage in 25 acre pasture at Nahiku, Maui. (Miyahira).

Beneficial Insects - An ENCYRTID WASP (Ooencyrtus erionotae) collected at Hoolehua, Molokai, by J. Ah Sam in September 1975 while parasitizing 35 percent of Erionota thrax (banana skipper) eggs. No release made on Molokai. Determined by K. Teramoto. This is a new island record. (Teramoto, Ah Sam). Parasitism in first half of October by a BRACONID WASP (Apanteles erionotae) 30, 29, and 35 percent on Hawaii, Maui, and Kauai, respectively. Control effective wherever E. thrax established. (Yoshioka et al.). A BRACONID WASP (Opius spp.) gave excellent control of Ophiomyia phaseoli on Kauai during October. Percent of parasitism by location: Hanamaulu 100, Hanapepe 97, Kapaa 100, Kaumakani 100, Kealia 33, Kekaha 80, Kilauea 100, Koloa 100, Mana 100, Waimea 94, and Wailua 100. (Sugawa, Melendez). Parasitism by an ICHNEUMON WASP (Diadegma insularis) light to moderate in Plutella xylostella (diamondback moth) throughout many areas of State week ending October 31. Parasitism 5, 22, and 18 percent on Kauai, at Kula, Maui, and at Pearl City, Oahu, respectively. (Sugawa et al.). MELASTOMA BORER (Selca brúnella) infested 18 and 23 percent of buds of the weed Melastoma malabathricum (melastoma) at Kauai at Knudsen Gap and Hanahanapuni respectively, week ending November 14. (Sugawa).

CORRECTIONS

CEIR 25(43):830 - Man and Animals - "... HORN FLY ... KENTUCKY ..." should read "FACE FLY ... KENTUCKY ..."

CEIR 25(43):831 - Federal and State Plant Protection Programs - "GRASSHOPPERS ... Aulocara eliotti ..." should read "GRASSHOPPERS - ... Aulacara elliotti ..."

CEIR 25(44):847 - Federal and State Plant Protection Programs - "GRASSHOPPERS ... Trachyrhachis kiowa ..." should read "GRASS-HOPPERS ... Trachyrhachys kiowa ..."

CEIR 25(44):848 - Beneficial Insects - "A TINGID BUG (Leptobrysa decora ..." should read "A TINGID BUG (Leptobyrsa decora ..."

DETECTION

New United States Record - A MEALYBUG (Chaetococcus phragmitis (Marchal)) - NEW JERSEY - Ocean County. (p. 875).

New State Records

A WEEVIL (Eunyssobia echidna) - MARYLAND - One adult collected in raw sugar-yeast lure trap at a Butler residence, Baltimore County, by E.J. Ford July 27, 1975. Determined by R.E. Warner. (PPQ).

HICKORY PLANT BUG (Lygocoris caryae) - ALABAMA - Lee County. (p. 871).

HOLLY SCALE (Dynaspidiotus britannicus) - ALABAMA - Baldwin County. (p. 871).

AN ICHNEUMON WASP (Bathyplectes curculionis) - NEW MEXICO - Valencia County. (p. 875).

A MEALYBUG (Brevennia rehi) - TEXAS - Hildago County. (p. 859).

A SAWFLY (Macremphytus tarsatus) - ALABAMA - Tallapoosa County. (p. 873).

A SOFT SCALE (Pulvinaria urbicola) - ALABAMA - Baldwin County. (p. 871).

A WEEVIL (Nanophyes watsoni) - MARYLAND - Worchester County. (p. 875).

New County and Island Records

A LEAFHOPPER (Scaphoideus titanus) - KENTUCKY - Four adults taken in malaise trap June 19-30, July 15-21, July 19-30, and July 29 to August 6 near Glendale, Hardin County. Collected and determined by P.H. Freytag. Confirmed by D.E. Barnett. (Barnett).

ARMORED SCALES in ALABAMA

Abgrallaspis cyanophylii - Lee (p. 872).
Acutaspis morrisonorum - Madison (p. 874).
Chionaspis heterophyllae - Madison (p. 873).
C. nyssae - Covington (p. 873).
Diaspidiotus liquidambaris - Crenshaw, Covington, Macon, Marshall, St. Clair, Shelby, Madison, Blount, Talladega, Jefferson (p. 873).
Hemiberlesia lataniae - Houston (p. 872).
Pseudaulacaspis cockerelli - Houston (p. 872).

AN ARMORED SCALE (Velataspis dentata) FLORIDA - Washington (p. 872).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) KENTUCKY - Metcalf, Green, Robertson (p. 873).

CAMPHOR SCALE (Pseudaonidia duplex) ALABAMA - Baldwin (p. 871).

CITRUS MEALYBUG (Planococcus citri) ALABAMA - St. Clair (p. 871).

DOUGLAS FIR TUSSOCK MOTH (Orgyia pseudosugata) NEW MEXICO - Bernalillo, Colfax, Otero, Sandoval, Torrance. ARIZONA - Rio Arriba (p. 872).

AN ENCYRTID WASP (Ooencyrtus erionotae) HAWAII - Molokai (p. 878).

AN ERIOPHYID MITE (Eriophyes macrocarpae) NEW MEXICO - Sierra (p. 874).

EUONYMUS SCALE (Unaspis euonymi) FLORIDA - Union (p. 872).

EUROPEAN CORN BORER (Ostrinia nubilalis) FLORIDA - Santa Rosa (p. 868).

GREENBUG (Schizaphis graminum) KENTUCKY - Todd, Caldwell (p. 868).

GREEN STINK BUG (Acrosternum hilare) SOUTH CAROLINA - Clarendon (p. 870).

HEMISPHERICAL SCALE (Saissetia coffeae) ALABAMA - Talladega, Clay, St. Clair (p. 871).

AN ICHNEUMON WASP (Coccygomimus annulipes) WEST VIRGINIA - Hardy (p. 876).

A MEALYBUG (Pseudococcus sorghiellus) ALABAMA - Coosa (p. 872).

OLEANDER HAWK MOTH (Deilephila nerii) HAWAII - Hawaii (p. 877).

AN OLETHREUTID MOTH (Rhyacionia bushnelli) NORTH DAKOTA - Mercer (p. 872).

OLDHOUSE BORER (Hylotrupes bajulus) SOUTH CAROLINA - Kershaw (p. 875).

A PINE APHID (Eulachnus agilis) WEST VIRGINIA - Mercer (p. 873).

SANDCHERRY WEEVIL (Coccotorus hirsutus) NORTH DAKOTA - Bottineau (p. 873).

SOFT SCALES in ALABAMA
Lecanium corni - Barbour, Marshall, St. Clair, Madison (p. 874).
Pseudophilippia quaintancii - Jefferson, Sumter, Marengo (p. 873).
Toumeyella parvicornis - Barbour, Escambia, Talladega (p. 872).
T. pini - Butler, Jefferson, Marion (p. 872).
T. virginiana - Jefferson, Macon (p. 872-873).

SOUTHERN GREEN STINK BUG (Nezara viridula) SOUTH CAROLINA - Clarendon (p. 870).

SWEET POTATO WEEVIL (Cylas formicarius elegantulus) ALABAMA - Russell (p. 870).

TERRAPIN SCALE (Lecanium nigrofasciatum) ALABAMA - Madison (p. 874).

TULIPTREE SCALE (Toumeyella liriodendri) ALABAMA - Chambers (p. 874).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) ALABAMA - Madison (p. 874).

WHITE PINE APHID (Cinara strobi) ALABAMA - Marshall (p. 873).

Weather of the week continued from page 866.

Tuesday was confined to the upper Mississippi Valley and the Pacific Northwest coast with a few thundershowers just off the central gulf coast. Though temperatures turned cooler across most of the United States, much of the Atlantic Coast States and Ohio Valley region enjoyed a mild but sunny afternoon. Columbus, Georgia, put a new record high of 80 degrees on the books. Rains, snow, strong winds, and cold temperatures announced winter's arrival on Wednesday across a large part of the north-central United States. Heavy snow and rain mixed with snow fell in the western Great Lakes region and it wasn't long before nearly 5 inches blanketed Duluth, Minnesota. Morning showers and thundershowers were widespread from the Ohio Valley to the Louisiana Delta and from the Carolinas through Florida. A low pressure center fixed over the northern Great Lakes whipped rain and snow across a large part of the north-central United States during the day. North Dakota and Minnesota accumulated up to 9 inches since Tuesday. Circulating around the storm, strong winds pulled cold air deep into the southern Plains. Midday readings halted in the 40's and 50's, meantime the north-central United States shivered in the 20's along the Canadian border. Ahead of the cold air, afternoon showers broke out from New York and the middle Atlantic States to the eastern gulf coast. Thundershowers also turned up over portions of Alabama, Georgia, and Florida. Fair skies sheltered the central Mississippi Valley, southern halves of the Plains and Rockies, and much of the Pacific Northwest. Gusty winds still whistled across the central Plains and middle Mississippi Valley on Thursday. Early morning temperatures plunged below freezing in the Ohio Valley and into the low 20's and teens in portions of the Plains where north Platte, Nebraska, measured only 11 degrees at 2 a.m. In the eastern United States, the weather did an about-face from unseasonably mild conditions that dominated the area for the past 2 weeks. Afternoon temperatures in many southeastern spots dropped as much as 20 degrees and reached into the 40's in the northern portions of Georgia, Alabama, and Mississippi. Near the end of the week, a warming trend began over the western United States as cooler air shifted eastward. Friday morning, the Midwest ranked as the Nation's cold spot east of the Rockies. Temperatures in the teens stretched across the Upper Great Lakes region and held in the 20's in the Middle Mississippi Valley. Elsewhere, freezing temperatures chilled areas from Texas to the South Carolina coast. Miami Beach, Florida, chalked up a record low of 45 degrees. Over the weekend, a warming trend pushed the mercury in the Plains and the Rockies into the 60's and 70's. Saturday was the third day in a row that Sheridan, Wyoming, claimed 72 degrees, the only reported record high for the Nation. Meanwhile, a cold front pushing into the Northwest moistened the northern half of the Pacific coast, Idaho, and western Montana. Otherwise, high pressure centers kept the Nation dry over the weekend except in northern Maine where a few snow showers lingered. Nosales, Arizona, drew some attention on Sunday. The morning mercury in that city sank to a low of 26 degrees but leapfrogged 61 degrees to a near record of 87 degrees in the afternoon.

The Establishment of *Coccinella septempunctata* L. in the Continental United States

George W. Angalet [1] and Richard L. Jacques [2]

On June 28, 1973, R.L. Jacques collected several specimens of the coccinellid, *Coccinella septempunctata* L., along the New Jersey Turnpike in the Hackensack Meadowlands region of Bergen County. This lady beetle is considered to be the most important aphid predator in the Palearctic region and the above collection was the first record of its establishment in the continental United States.

The Beneficial Insects Research Laboratory, USDA-ARS, Newark, Delaware, has attempted to establish *C. septempunctata* in the United States intermittently from 1956 through 1971 from material received from India and France. Personnel of the laboratory released all stages of this predator in New Jersey, Delaware, Maryland, Virginia, Pennsylvania, and Ohio during this period. In addition, from 1956 through 1964, various stages of *C. septempunctata* were shipped to Maine, Washington, California, Arizona, Florida, the Virgin Islands, and the Dominican Republic. The F_1 generation of this coccinellid was recovered during the year of release in New Jersey, Ohio, and California in several fields where it had been released, but there was never any evidence of its permanent establishment in the continental United States until the recovery by Jacques in 1973.

In 1974 we began an investigation to determine whether *C. septempunctata* was established accidentally in New Jersey from unknown sources, or resulted from the many liberations made in the eastern United States. From the information obtained thus far, the origin of *C. septempunctata* in Bergen County has still not been definitely determined, but it appears to be related to the trash disposal sites at the Hackensack Meadowlands where trash from Kennedy International Airport and other transportation sources are dumped, rather than the result of our previous introduction attempts.

Attempts to sub-colonize *C. septempunctata* in new areas were conducted during 1974 and 1975. Large scale releases were made in Delaware, Ohio, Illinois, and Oklahoma. The Illinois liberations were made by C.E. White, Illinois Natural History Survey, and the Oklahoma releases by R.D. Eikenbary, Oklahoma State University.

In New Jersey, *C. septempunctata* was found to be abundant only in the Hackensack Meadowlands where it was originally discovered, and it has not dispersed to any great distance out of Bergen County. The farthest point from which *C. septempunctata* was

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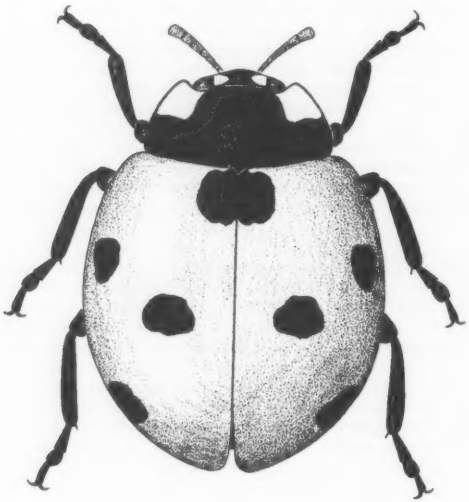
collected from the original establishment was 35 miles at Greenwich, Connecticut. Surveys by Angalet and Jacques in 1974 and 1975 recorded C. septempunctata in the following counties in the eastern United States:

Year	New Jersey	Year	New York	Year	Connecticut	Year	Delaware
1973	Bergen	1975	Queens	1975	Fairfield (1 specimen)	1975	New Castle (2 specimens) probably from 1974 releases
1973	Passaic	1975	Kings				
1974	Essex	1975	Richmond				
1974	Hudson						
1974	Middlesex						
1975	Morris						

Efforts will be continued to sub-colonize C. septempunctata in new areas, as this excellent aphid predator should prove as effective in the United States as it is in Europe and Asia. As the natural spread of this predator from the original establishment is slow, sub-colonization can only be carried out through manipulation.



U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(45-48)883-884, 1975

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Compiled by T. Perju 1/ and D. Mustea 2/ 3/

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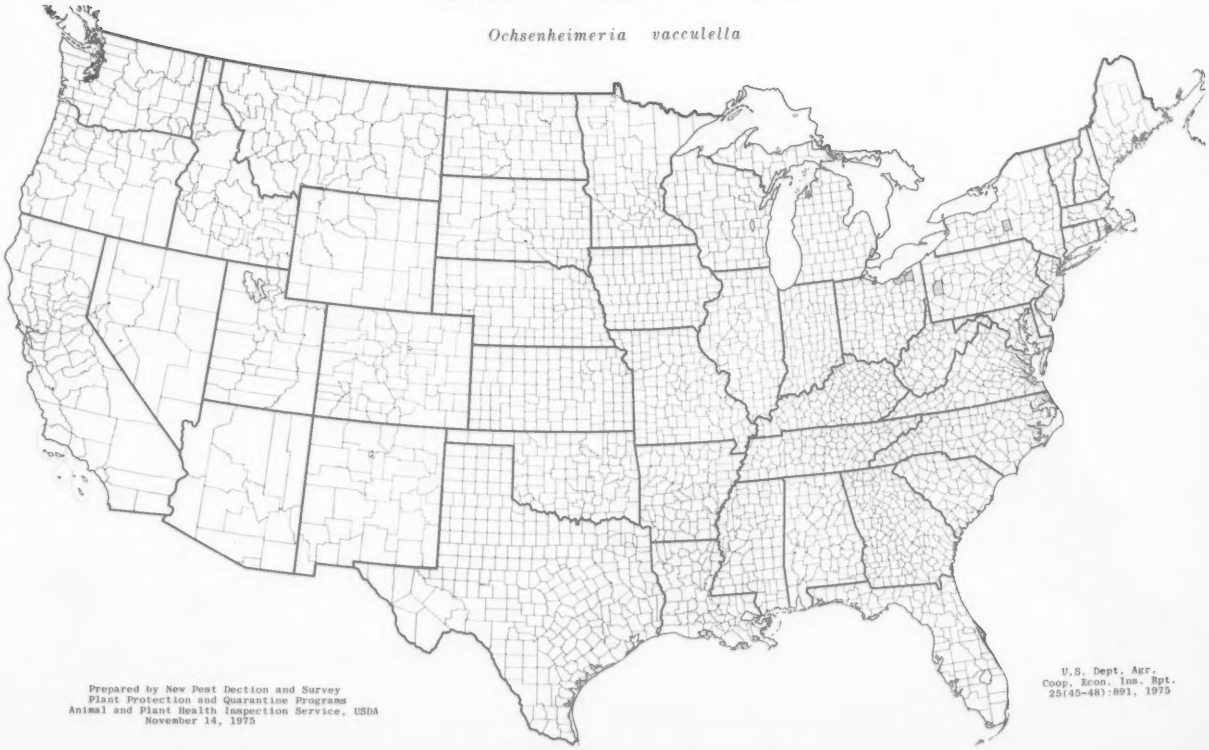
Distribution of Cereal Stem Moth

Ochsenheimeria vacculella



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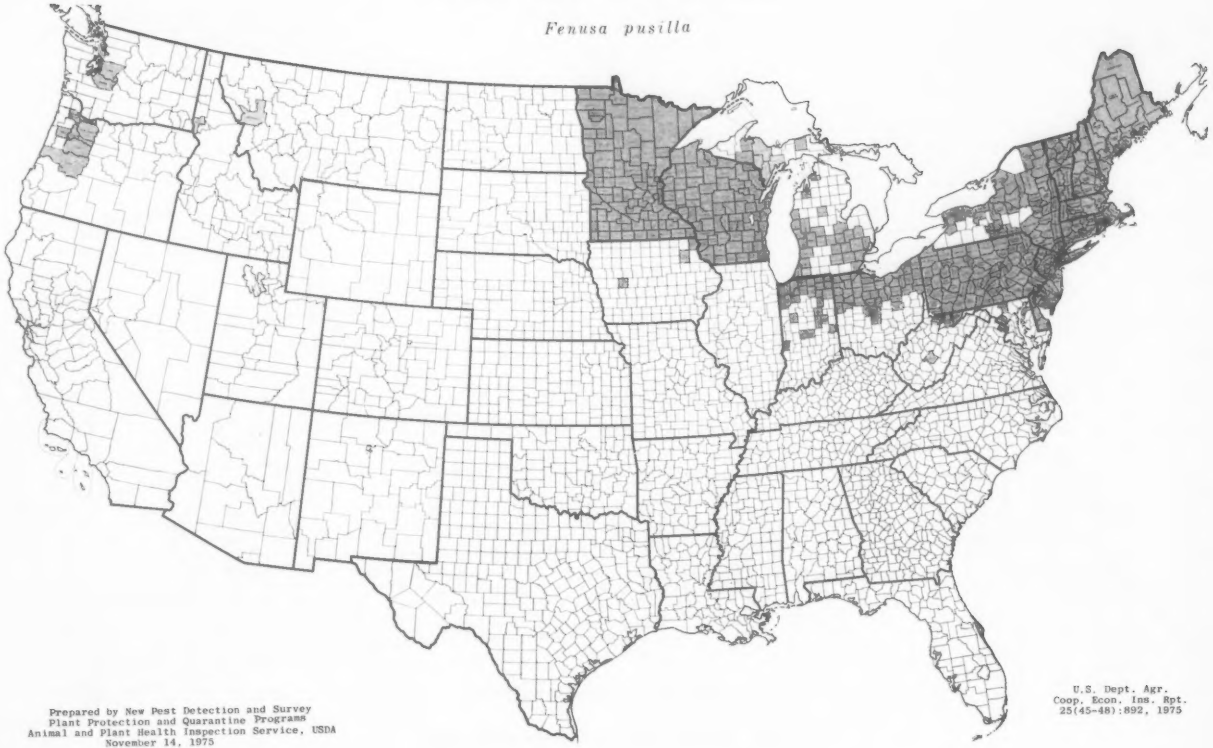
Fenusa pusilla



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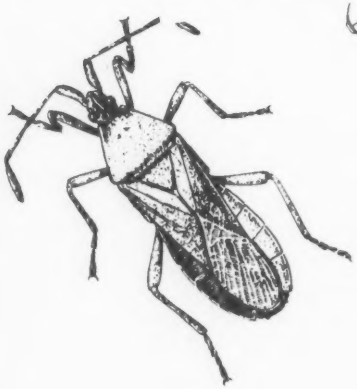
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